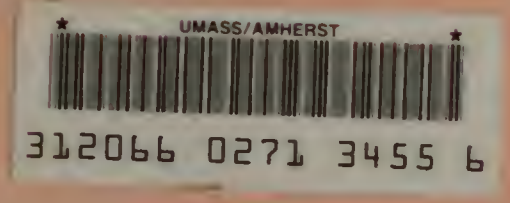
MASS. ED29.2:C36



CHAPTER 188 STATE REPORT ON HIGH SCHOOL GRADUATION REQUIREMENTS

Based on the 1986-1987
Chapter 188 School and District Assessment

LEGISLATIVE DOCUMENTS
COLLECTION
MAY 15 1989
University of Massachusetts
Depository Copy

August, 1988

Massachusetts Department of Education
Office of Planning, Research and Evaluation

ED29.1/50

Massachusetts Board of Education

James F. Crain, Gloucester, Chairperson
Joseph E. Killory, Sandwich, Vice Chairperson

Raquel Bauman, Holden
John J. Gould, Waltham
James R. Grande, Hanover
Susan J. Hubbard, Winthrop
Sol Kolack, Newton
Anne S. Larkin, Bedford
Theodora A. Sylvester, Springfield
Frances M. Turner, South Egremont
Joan Wallace-Benjamin, Boston
Mary C. Wright, Falmouth

Harold Raynolds, Jr., Commissioner of Education, Secretary
Franklyn G. Jenifer, Chancellor, Board of Regents, Ex Officio

---

Prepared by Abt Associates for
the Office of Planning, Research and Evaluation

The Massachusetts Department of Education insures equal employment/educational opportunities/affirmative action regardless of race, color, creed, national origin or sex, in compliance with Title VI and Title IX, or handicap, in compliance with section 504.

Publication #15775
Approved by Rick Murphy, State Purchasing Agent

TABLE OF CONTENTS

	Page
Executive Summary	i
Introduction	1
Graduation Requirements Set By Massachusetts School Districts for the Class of 1988	3
Specific Subject Areas	3
Total Number of Credits	8
Graduation Requirements Recommended by National Commission	10
Changes in Massachusetts Graduation Requirements 1984-1988	12
Appendix: School District Summary Report	

EXECUTIVE SUMMARY

This report summarizes the high school graduation requirements established by Massachusetts school districts for the class of 1988. Information comes from the School District Summary filed with the Department of Education in fiscal year 1987. On that statewide survey, districts indicated the total number of credits required for high school graduation as well as the number of credits needed in specific subject areas. Data are presented for 237 districts that report four-year graduation requirements, including 212 districts with comprehensive high schools and 25 vocational-technical regional schools. These districts represent 93% of districts in the state that enroll secondary students.

GRADUATION REQUIREMENTS SET BY MASSACHUSETTS SCHOOL DISTRICTS

- 98% of Massachusetts districts require at least 4 years of English.
- 92% of districts require at least 2 years of mathematics.
- 81% of districts require at least 2 years of science.
- 90% of districts require at least 2 years of social studies.
- 19% of districts require at least one course in fine or applied/practical arts.
- There are no meaningful differences or consistent patterns in graduation requirements of districts in different kinds of communities (KOCs).
- On average across the state, districts with comprehensive high schools require a total of 20 credits for graduation.

GRADUATION REQUIREMENTS RECOMMENDED BY NATIONAL COMMISSION

The National Commission on Excellence in Education (NCEE) recommended the following graduation requirements: 4 years of English; 3 years each of mathematics, science and social studies; and one-half year of computer science.

- 98% of Massachusetts districts meet or exceed the NCEE requirements in English.
- 31% of districts meet or exceed the NCEE recommendations in mathematics.
- 16% of districts meet or exceed the recommendations in science.
- 39% of districts meet or exceed the recommendations in social studies.
- 11% of districts meet or exceed the recommendation in computer science.

CHANGES IN MASSACHUSETTS GRADUATION REQUIREMENTS 1984-1988

The graduation requirements for the class of 1988 were compared with the requirements for the class of 1984, as reported in an earlier Department of Education document. Since this earlier report excluded vocational-technical regional schools, this analysis includes only the 212 districts with comprehensive high schools.

- In all four core academic courses, graduation requirements have become more stringent since 1984, particularly in math and science.

- The proportion of districts requiring at least 2 years of mathematics has risen from 71% in 1984 to 92% in 1988. The proportion of districts requiring 3 years of mathematics increased from 6% to 28% over the 4 years.

- The proportion of districts requiring at least 2 years of social studies increased from 86% to 93%.

- The proportion of districts requiring at least 2 years of science has risen from 57% in 1984 to 83% in 1988.

INTRODUCTION

High school graduation requirements are considered one indicator of academic rigor and accountability in the education reform movement. In response to a spate of reports critical of American education, legislatures in many states have mandated more stringent standards for a high school diploma, including an increase in the total number of credits needed for graduation, a greater number of courses to be taken in core academic subjects and minimum competency tests.

In Massachusetts, and a handful of other states such as Colorado and Iowa, school districts continue to maintain local control over graduation requirements. Massachusetts law governing public schools specifies only two course requirements. Chapter 71, Section 2 of the General laws calls for American history and civics to be taught in all public elementary and high schools in the Commonwealth. In addition, Chapter 71, Section 3 stipulates that physical education is required for all students at all grade levels. These two provisions have been interpreted as requiring one year of American history and four years of physical education for Massachusetts high school students. Beyond these minimal requirements, individual school districts set their own standards.

This report presents the graduation requirements established in Massachusetts school districts for the class of 1988. Information comes from the School District Summary Report filed with the State Department of Education in fiscal year 1987. A copy of the School District Summary report is provided in the appendix to this report.

Data from the School District Summary Reports were available from 241 districts, representing 95% of the districts in the state with high schools. This report presents graduation requirements for the 237 districts that base graduation requirements on four years of high school, including 212 districts with comprehensive high schools (i.e., those offering a full range of academic courses) and 25 vocational-technical regional schools. Four districts whose high schools include only grades 10-12 and whose graduation requirements cover only this three-year period were excluded from the analysis.

Two kinds of information on graduation requirements are examined in this report: the total number of credits required and the number of credits needed in specific subject areas. The report also compares the Massachusetts graduation requirements for the class of 1988 to (1) recommendations on graduation requirements from the National Commission on Excellence in Education; (2) graduation requirements in other states; and (3) the Massachusetts graduation requirements for the class of 1984. This report focuses solely on the number of courses required for graduation; there is no analysis of the content or quality of courses in the high school curriculum.

In reporting on graduation requirements across districts in Massachusetts, the requirements are translated into the number of years of instruction in a subject area that are necessary for a high school diploma. School districts in Massachusetts use a variety of methods to count credits. For example, some districts consider the completion of each full-year course to equal one credit, while other districts assign five points for each full-year course. For comparability across districts, the graduation requirements presented in this report have been converted to equal one credit per full-year course. Since physical education credits often are not calculated in the same way as other course requirements, information about physical education requirements could not be converted to a comparable scale for all districts and are not presented in this report.

GRADUATION REQUIREMENTS SET BY MASSACHUSETTS SCHOOL DISTRICTS FOR THE CLASS OF 1988

Specific Subject Areas

This section presents the graduation requirements for the class of 1988 in seven subject areas. The data include districts with comprehensive high schools as well as vocational-technical regional schools. The analyses were calculated with and without the vocational-technical regional schools, and no meaningful differences were found. Therefore, the graduation requirements in both types of districts are combined in this section.

Exhibit 1 displays the graduation requirements for the class of 1988. These reflect the number of courses required for all students for graduation. School districts often recommend more rigorous standards.

- 98% of Massachusetts districts require at least 4 years of English instruction. Districts stipulating more than 4 years generally require a writing course in addition to more traditional English courses.

- 92% of Massachusetts districts require at least 2 years of mathematics; 31% require at least 3 years of mathematics.

- 81% of districts require at least 2 years of science; 16% require at least 3 years.

- 90% of districts require at least 2 years of social studies; 39% require at least 3 years.

- Only 9% of districts require the completion of one or two years of a foreign language for graduation.

- 19% of districts require at least one course in fine or applied/practical arts.

- 15% of districts require students to take some computer courses in high school, although only 4% require a full-year or more of instruction.

Exhibit 2 summarizes the average number of years of instruction Massachusetts districts require in each of the seven subject areas.

- On average, districts in the state require 4 years of English and 2 years each of mathematics, science and social studies.

- Very few districts in the state require foreign language, art or computer courses.

Exhibit 1

GRADUATION REQUIREMENTS IN MASSACHUSETTS SCHOOL DISTRICTS FOR THE CLASS OF 1988

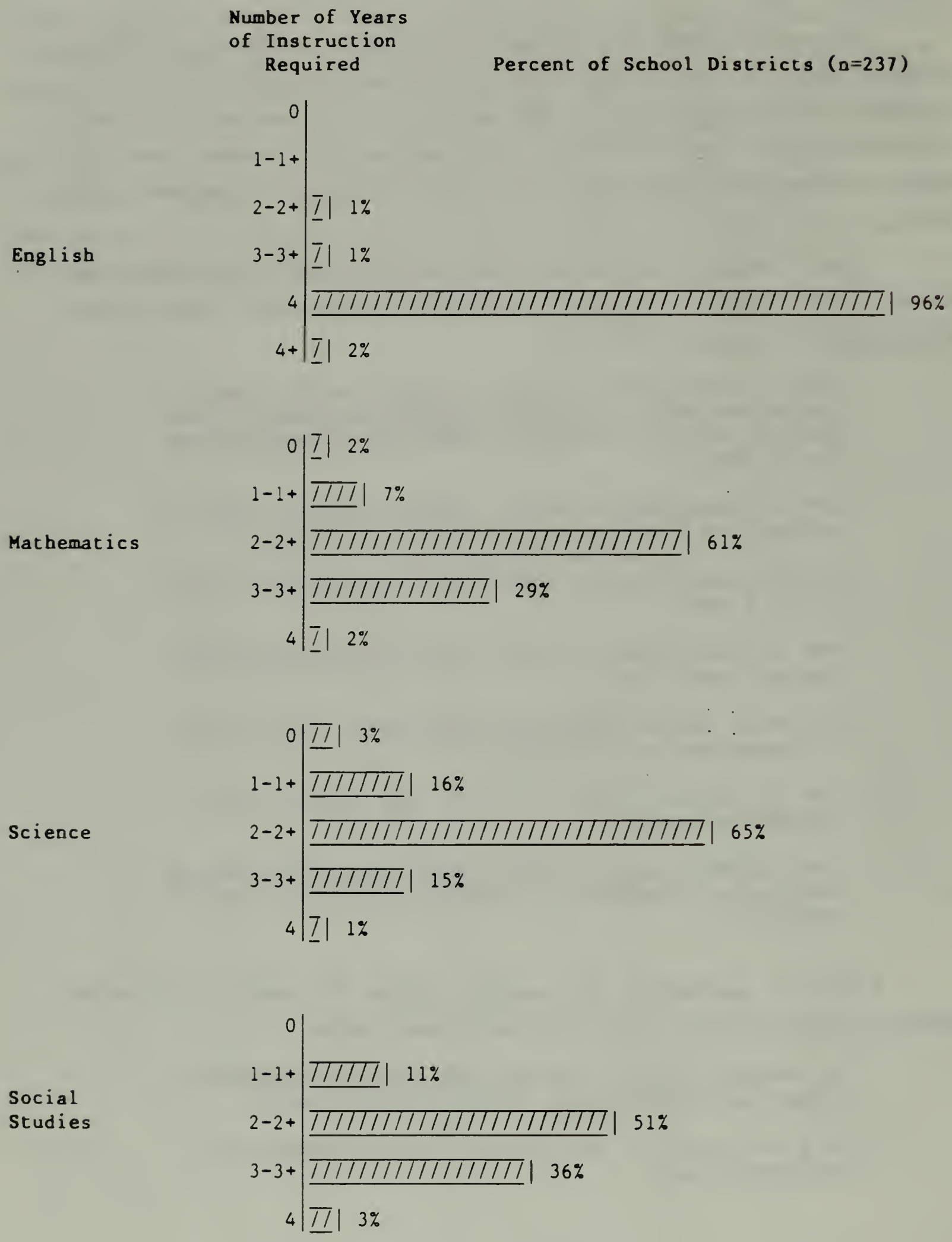


Exhibit 1 (continued)

GRADUATION REQUIREMENTS IN MASSACHUSETTS SCHOOL DISTRICTS FOR THE CLASS OF 1988

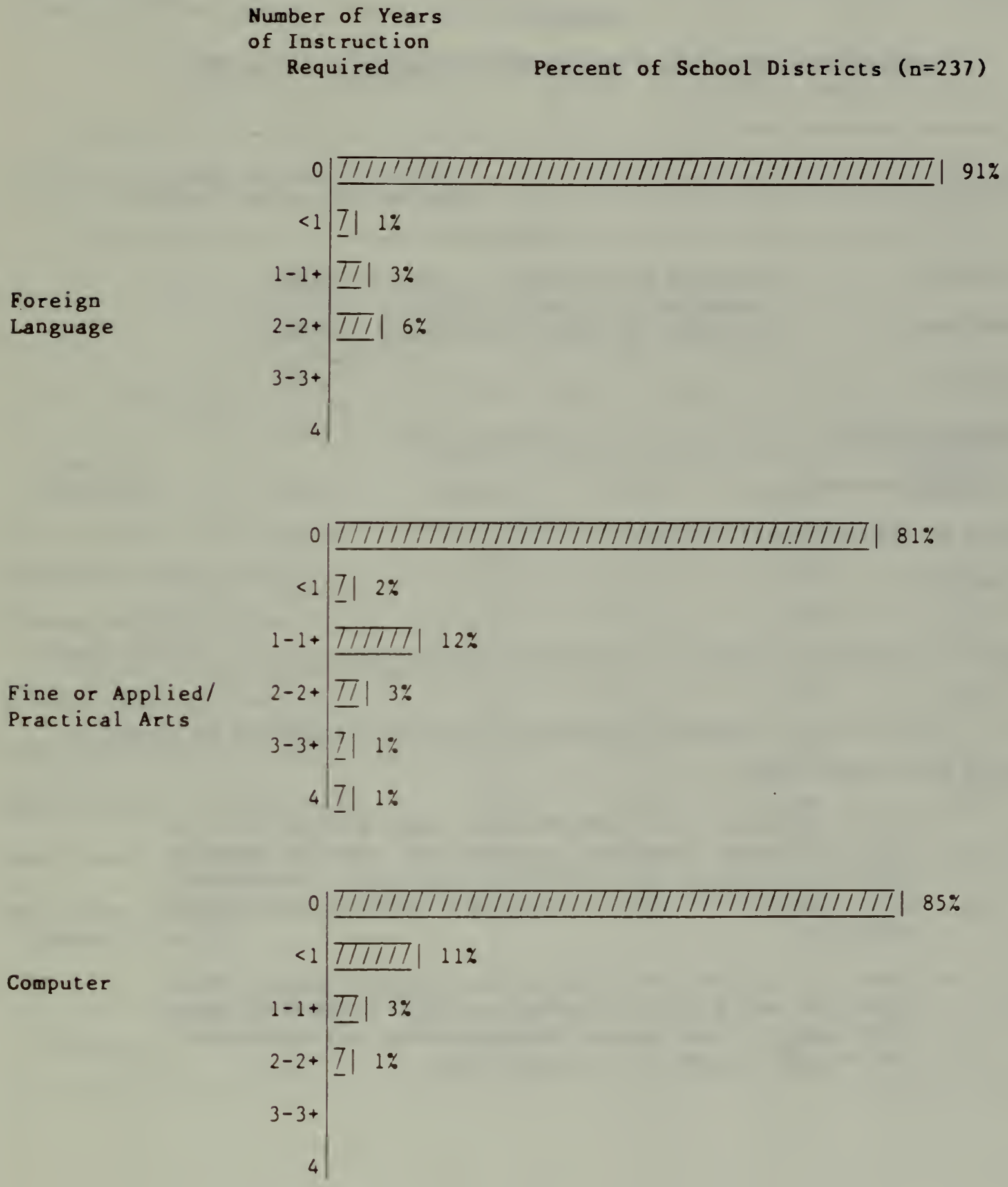


Exhibit 2

AVERAGE NUMBER OF YEARS OF INSTRUCTION REQUIRED STATEWIDE

Subject Area	Average Number of Years Required Statewide (n=237)
English	4.01
Mathematics	2.23
Science	1.97
Social studies	2.35
Foreign language	0.16
Fine or applied/practical arts	0.30
Computer	0.12

Districts were asked about additional courses that are required for graduation beyond the seven areas listed.

- Among districts with comprehensive high schools, 47% of districts require coursework in other areas, with the majority stipulating a year or less of additional instruction. Courses most often included in this category are electives and health education.

- Nearly all of the vocational-technical regional schools (88%) require at least 3 full-year courses in addition to the seven areas listed above. These courses include technical and occupational courses such as trade, shop and agriculture.

District Differences. Exhibit 3 presents the graduation requirements in core academic subjects (English, mathematics, science and social studies) established by districts in different kinds of communities (KOCs).

- There are no meaningful differences or consistent patterns in graduation requirements of districts in different kinds of communities.

Exhibit 3

NUMBER OF YEARS OF INSTRUCTION REQUIRED IN CORE ACADEMIC COURSES IN DIFFERENT KINDS OF COMMUNITIES (KOC) AND STATEWIDE

Kind of Community	Average Number of Years of Instruction Required			
	English	Math	Science	Social Studies
Urbanized center (n=53)	4.00	2.20	1.89	2.20
Economically developed suburb (n=65)	4.01	2.21	1.95	2.25
Growth community (n=33)	4.02	2.11	1.92	2.38
Residential suburb (n=32)	4.00	2.38	2.05	2.53
Rural economic center (n=38)	4.03	2.33	2.08	2.47
Small rural community (n=6)	4.00	2.33	2.00	2.17
Resort/retirement/artistic community (n=10)	4.00	2.10	2.10	2.75
Statewide	4.01	2.23	1.97	2.35

Total Number of Credits

In addition to establishing specific subject requirements, school districts also stipulate the total number of credits necessary for high school graduation. In this section, we present the total number of credits set by school districts with comprehensive high schools. Vocational-technical regional schools are not included in this discussion.*

The average number of credits required by districts with comprehensive high schools in different kinds of communities (KOCs) and statewide are presented in Exhibit 4.

- On average across the state, districts with comprehensive high schools require between 19 and 20 credits for graduation.
- There are no differences in the total number of credits required by districts in different kinds of communities.

Exhibit 4

TOTAL NUMBER OF CREDITS REQUIRED FOR GRADUATION IN DISTRICTS WITH COMPREHENSIVE HIGH SCHOOLS IN DIFFERENT KINDS OF COMMUNITIES

Kind of Community	Total Number of Credits Required for Graduation
Urbanized center (n=44)	19.89
Economically developed suburb (n=54)	19.70
Growth community (n=29)	19.64
Residential suburb (n=30)	19.83
Rural economic center (n=36)	19.76
Small rural community (n=6)	20.05
Resort/retirement/artistic community (n=9)	19.96
Statewide	19.78

*The 25 vocational-technical regional schools were excluded because it was not possible to convert the total number of credits into the same metric of one credit per full-year course used with comprehensive high schools.

Comparison with Other States. The average for Massachusetts districts of the total number of credits required for graduation is consistent with the total number required by other states. As shown in Exhibit 5, in 1987 56% of states required between 19 and 22 credits for graduation.

Exhibit 5

TOTAL NUMBER OF CREDITS REQUIRED FOR GRADUATION NATIONALLY[a]

Number of Credits	Number of States
0 (local option)	4
13 - 18.5	11
19 - 21.5	28
22 - 25	7

[a]Based on Education Commission of the States, Clearinghouse Notes, April, 1987.

GRADUATION REQUIREMENTS RECOMMENDED BY NATIONAL COMMISSION

In 1983, the National Commission on Excellence in Education published A Nation at Risk, which became a landmark document in the education reform movement. Criticizing the shift in high schools away from traditional academic subjects, the Commission recommended the adoption of a "New Basics" curriculum: 4 years of English; 3 years each of mathematics, science and social studies; and one-half year of computer science. In addition, the Commission suggested 2 years of foreign language instruction for college-bound students.

Exhibit 6 compares the graduation requirements set by Massachusetts school districts with the New Basics curriculum recommended by the National Commission on Excellence in Education (NCEE).

Exhibit 6

COMPARISON OF GRADUATION REQUIREMENTS IN MASSACHUSETTS AND OTHER STATES WITH RECOMMENDATIONS BY THE NATIONAL COMMISSION ON EXCELLENCE IN EDUCATION

	Subject Area					
	English	Math	Science	Social Studies	Foreign Language	Computer Science
Number of Credits Recommended by National Commission on Excellence in Education (NCEE)	4.0	3.0	3.0	3.0	2.0[a]	0.5
Percent of Districts in Massachusetts Meeting or Exceeding NCEE Recommendations	98%	31%	16%	39%	6%	11%
Percent of Other States Meeting or Exceeding NCEE Recommendations[b]	76%	20%	6%	52%	n/a	n/a

[a]The Commission's recommendations about foreign language applied only to college-bound students.

[b]Based on Education Commission of the States, Clearinghouse Notes, April 1987; graduation requirements reflect state mandates and may underestimate local requirements.

- 98% of Massachusetts districts meet or exceed the NCEE requirements in English.
- 31% of districts meet or exceed the NCEE recommendations in mathematics.
- 16% of districts meet or exceed the recommendations in science.
- 39% of districts meet or exceed the recommendations in social studies.

Exhibit 6 also presents a comparison of the NCEE recommendations with graduation requirements mandated in states other than Massachusetts. These figures indicate that a greater proportion of Massachusetts districts have set graduation requirements closer to the NCEE recommendations in English, mathematics, and science. Of course, the state-level information may be an underestimate of graduation requirements as districts in other states may set more stringent standards than those legislatively mandated. However, the information in Exhibit 6 does suggest that most school districts in the country do not yet require the number of courses in the New Basics that the National Commission recommended.

CHANGES IN MASSACHUSETTS GRADUATION REQUIREMENTS 1984-1988

In 1984, the Massachusetts Department of Education analyzed graduation requirements set by districts for the class of 1984. Exhibit 7 compares those data with the graduation requirements for the class of 1988. The 1984 study reported figures separately for vocational-technical regional schools and comprehensive high schools (i.e., those offering a full range of academic courses). Thus, the 1988 data included in Exhibit 7 also represent only districts with comprehensive high schools.

- In all four core academic courses, graduation requirements have become more stringent since 1984, particularly in math and science.

- The proportion of districts requiring at least 2 years of mathematics has risen from 71% in 1984 to 92% in 1988. The proportion of districts requiring 3 years of mathematics increased from 6% to 28% over the 4 years.

- The proportion of districts requiring at least 2 years of social studies increased from 86% to 93%.

- The proportion of districts requiring at least 2 years of science has risen from 57% in 1984 to 83% in 1988.

Exhibit 7

COMPARISON OF GRADUATION REQUIREMENTS IN COMPREHENSIVE HIGH SCHOOLS FOR THE CLASSES OF 1984 AND 1988

Graduation Requirements		Percent of Districts 1984 (n=212)	1988 (n=212)
English:	At least 4 years	97%	100%
Mathematics:	At least 3 years	6	28
	At least 2 years	71	92
Social Studies:	At least 3 years	31	42
	At least 2 years	86	93
Science:	At least 3 years	2	15
	At least 2 years	57	83

APPENDIX

SCHOOL DISTRICT SUMMARY REPORT

CHAPTER 188
Massachusetts Public School Improvement Act, 1985

PLEASE RETURN ORIGINAL COPY TO:

MASSACHUSETTS DEPARTMENT OF EDUCATION
BUREAU OF DATA COLLECTION AND PROCESSING
1385 HANCOCK STREET
QUINCY, MA 02169

BY
APRIL 10, 1987

System Code _____

TABLE-6 GRADUATION REQUIREMENTS

1. Secondary school organization (Circle One)

a. 7-12 b. 9-12 c. 10-12

2. Total number of credits required for graduation _____

3. Number of credits awarded for completion of a standard, one-year course _____

Course requirements

Subject	Number of credits required for the Class of 1988
4. English	_____
5. Mathematics	_____
6. Social Studies (including American History)	_____
7. Science	_____
8. Physical Education	_____
9. Foreign Language	_____
10. Fine or Applied/Practical Arts	_____
11. Computer	_____
12. Other (Please Specify) _____	_____

Massachusetts Department of Education
Office of Planning, Research and Evaluation
1385 Hancock Street
Quincy, Massachusetts 02169-05183

Nonprofit
U.S. POSTAGE
PAID
Permit No. 55623
Boston, MA